



*CMT Engineering Inc.*  
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St. Clements, Ontario N0B 2M0  
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[www.cmtinc.net](http://www.cmtinc.net)

January 27, 2025

24-875.R02

Triton Engineering Services Ltd.  
39 Elora Street South  
Harriston, Ontario  
N0G 1Z0

Attention: Mr. Paul Zeigler

Dear Sir:

**Re: Chemical Analysis Report  
Proposed Parking Lot Expansion  
Highpoint Community School  
351 Main Street West  
Dundalk, Ontario**

CMT Engineering Inc. obtained two (2) representative soil samples during the geotechnical investigation completed on December 23, 2024 (CMT Report: 24-875.R01, dated January 23, 2025). The samples were considered to be representative of the soil intended for removal from the site during the proposed parking lot expansion at 351 Main Street West in Dundalk, Ontario. The samples were obtained on December 23, 2024 and submitted to the ALS Environmental Laboratory in Waterloo, Ontario for chemical analysis on the same day.

Sampling was conducted following the Ministry of Environment “Guideline on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario” protocol. The soil samples were tested for the following parameters:

- TCLP Metals,
- TCLP VOC’s.

The samples were obtained from the following depth and locations:

- Borehole 1 – approximate depth 0.46 m to 1.52 m (1.50 ft to 5.00 ft),
- Borehole 7 – approximate depth 1.22 m to 1.52 m (4.00 ft to 5.00 ft).

The chemical analysis results were found to have no exceedances when compared to Ontario Ministry of the Environment, General Waste Control Regulation No. 347/90. The testing was completed by ALS Environmental on January 23, 2025. The laboratory testing has been attached for your reference.

We trust this information meets with your present requirements. Should you have any questions or require additional testing, please do not hesitate to contact our office.

Yours truly,

A handwritten signature in black ink, appearing to read "J Feeney". The signature is fluid and cursive, with a large initial "J" and a stylized "Feeney".

Jake Feeney, P. Eng.

A handwritten signature in black ink, appearing to read "Nat Chortos". The signature is fluid and cursive, with a large initial "Nat" and a stylized "Chortos".

Nathan Chortos, P.Eng.

Encl. Certificate of Analysis



CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: WT2500391	Page	: 1 of 4
Amendment	: 1		
Client	: CMT Engineering Inc.	Laboratory	: ALS Environmental - Waterloo
Contact	: Jake Feeney	Account Manager	: Mathy Mahadeva
Address	: 1011 Industrial Crescent Unit 1 St. Clements ON Canada N0B 2M0	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 519 699 5775	Telephone	: +1 519 886 6910
Project	: 24-875 Highpoint Community School, Dundalk, ON	Date Samples Received	: 23-Dec-2024 14:45
PO	: ----	Date Analysis Commenced	: 13-Jan-2025
C-O-C number	: ----	Issue Date	: 22-Jan-2025 20:00
Sampler	: Jake Feeney		
Site	: ----		
Quote number	: Standing Offer 2025 Pricing		
No. of samples received	: 2		
No. of samples analysed	: 2		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Nik Perkio	Senior Analyst	Metals, Waterloo, Ontario
Sarah Birch	VOC Section Supervisor	VOC, Waterloo, Ontario
Tristan Stapells		Inorganics, Waterloo, Ontario



## No Breaches Found

### General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	Description
µg/L	micrograms per litre
mg/L	milligrams per litre
pH units	pH units

>: greater than.

<: less than.

Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

### Workorder Comments

RRQC: Silver recovery outside of ALS DQOs due to issue with standard. Reported data was not affected by this issue.

RL raised due to suspected contamination from jar.



# Analytical Results Evaluation

Matrix: Soil/Solid				Client sample ID	BH1S1	BH7S1	----	----	----	----	----
				Sampling date/time	23-Dec-2024 00:00	23-Dec-2024 00:00	----	----	----	----	----
				Sub-Matrix	Soil/Solid	Soil/Solid	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	WT2500391-001	WT2500391-003	-----	-----	-----	-----	-----	-----
TCLP Metals											
pH, TCLP 1st preliminary	----	EPP444/WT	pH units	9.65	9.23	----	----	----	----	----	----
pH, TCLP 2nd preliminary	----	EPP444/WT	pH units	6.18	5.94	----	----	----	----	----	----
pH, TCLP extraction fluid initial	----	EPP444/WT	pH units	2.88	2.88	----	----	----	----	----	----
pH, TCLP final	----	EPP444/WT	pH units	5.40	5.40	----	----	----	----	----	----
Antimony, TCLP	7440-36-0	E444/WT	mg/L	<0.10	<0.10	----	----	----	----	----	----
Arsenic, TCLP	7440-38-2	E444/WT	mg/L	<1.0	<1.0	----	----	----	----	----	----
Barium, TCLP	7440-39-3	E444/WT	mg/L	<2.5	<2.5	----	----	----	----	----	----
Beryllium, TCLP	7440-41-7	E444/WT	mg/L	<0.025	<0.025	----	----	----	----	----	----
Boron, TCLP	7440-42-8	E444/WT	mg/L	<0.50	<0.50	----	----	----	----	----	----
Cadmium, TCLP	7440-43-9	E444/WT	mg/L	<0.050	<0.050	----	----	----	----	----	----
Calcium, TCLP	7440-70-2	E444/WT	mg/L	1440	1440	----	----	----	----	----	----
Chromium, TCLP	7440-47-3	E444/WT	mg/L	<0.25	<0.25	----	----	----	----	----	----
Cobalt, TCLP	7440-48-4	E444/WT	mg/L	<0.050	<0.050	----	----	----	----	----	----
Copper, TCLP	7440-50-8	E444/WT	mg/L	<0.050	<0.050	----	----	----	----	----	----
Iron, TCLP	7439-89-6	E444/WT	mg/L	<5.0	<5.0	----	----	----	----	----	----
Lead, TCLP	7439-92-1	E444/WT	mg/L	<0.25	<0.25	----	----	----	----	----	----
Magnesium, TCLP	7439-95-4	E444/WT	mg/L	157	112	----	----	----	----	----	----
Mercury, TCLP	7439-97-6	E512/WT	mg/L	<0.0010	<0.0010	----	----	----	----	----	----
Nickel, TCLP	7440-02-0	E444/WT	mg/L	<0.25	<0.25	----	----	----	----	----	----
Selenium, TCLP	7782-49-2	E444/WT	mg/L	<0.10	<0.10	----	----	----	----	----	----
Silver, TCLP	7440-22-4	E444/WT	mg/L	<0.050	<0.050	----	----	----	----	----	----
Thallium, TCLP	7440-28-0	E444/WT	mg/L	<1.0	<1.0	----	----	----	----	----	----
Uranium, TCLP	7440-61-1	E444/WT	mg/L	<0.20	<0.20	----	----	----	----	----	----
Vanadium, TCLP	7440-62-2	E444/WT	mg/L	<0.15	<0.15	----	----	----	----	----	----
Zinc, TCLP	7440-66-6	E444/WT	mg/L	<0.50	<0.50	----	----	----	----	----	----
Zirconium, TCLP	7440-67-7	E444/WT	mg/L	<10	<10	----	----	----	----	----	----
TCLP VOCs											
Benzene, TCLP	71-43-2	E615B/WT	mg/L	<0.0050	<0.0050	----	----	----	----	----	----



## Analytical Results Evaluation

Matrix: Soil/Solid				Client sample ID	BH1S1	BH7S1	----	----	----	----	----
				Sampling date/time	23-Dec-2024 00:00	23-Dec-2024 00:00	----	----	----	----	----
				Sub-Matrix	Soil/Solid	Soil/Solid	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	WT2500391-001	WT2500391-003	-----	-----	-----	-----	-----	-----
TCLP VOCs											
Carbon tetrachloride, TCLP	56-23-5	E615B/WT	mg/L	<0.025	<0.025	----	----	----	----	----	----
Chlorobenzene, TCLP	108-90-7	E615B/WT	mg/L	<0.025	<0.025	----	----	----	----	----	----
Chloroform, TCLP	67-66-3	E615B/WT	mg/L	<0.10	<0.10	----	----	----	----	----	----
Dichlorobenzene, 1,2-, TCLP	95-50-1	E615B/WT	mg/L	<0.025	<0.025	----	----	----	----	----	----
Dichlorobenzene, 1,4-, TCLP	106-46-7	E615B/WT	mg/L	<0.025	<0.025	----	----	----	----	----	----
Dichloroethane, 1,2-, TCLP	107-06-2	E615B/WT	mg/L	<0.025	<0.025	----	----	----	----	----	----
Dichloroethylene, 1,1-, TCLP	75-35-4	E615B/WT	mg/L	<0.025	<0.025	----	----	----	----	----	----
Dichloromethane, TCLP	75-09-2	E615B/WT	mg/L	<0.10	<0.10	----	----	----	----	----	----
Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B/WT	mg/L	<0.10	<0.10	----	----	----	----	----	----
Tetrachloroethylene, TCLP	127-18-4	E615B/WT	mg/L	<0.025	<0.025	----	----	----	----	----	----
Trichloroethylene, TCLP	79-01-6	E615B/WT	mg/L	<0.025	<0.025	----	----	----	----	----	----
Vinyl chloride, TCLP	75-01-4	E615B/WT	mg/L	<0.050	<0.050	----	----	----	----	----	----
TCLP VOCs Surrogates											
Bromofluorobenzene, 4-, TCLP	460-00-4	E615B/WT	%	96.3	95.7	----	----	----	----	----	----
Difluorobenzene, 1,4-, TCLP	540-36-3	E615B/WT	%	99.4	99.2	----	----	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Key:

## QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: WT2500391	Page	: 1 of 7
Amendment	: 1		
Client	: CMT Engineering Inc.	Laboratory	: ALS Environmental - Waterloo
Contact	: Jake Feeney	Account Manager	: Mathy Mahadeva
Address	: 1011 Industrial Crescent Unit 1 St. Clements ON Canada N0B 2M0	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 519 699 5775	Telephone	: +1 519 886 6910
Project	: 24-875 Highpoint Community School, Dundalk, ON	Date Samples Received	: 23-Dec-2024 14:45
PO	: ----	Issue Date	: 22-Jan-2025 20:00
C-O-C number	: ----		
Sampler	: Jake Feeney		
Site	: ----		
Quote number	: Standing Offer 2025 Pricing		
No. of samples received	: 2		
No. of samples analysed	: 2		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

### Key

**Anonymous:** Refers to samples which are not part of this work order, but which formed part of the QC process lot.

**CAS Number:** Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO:** Data Quality Objective.

**LOR:** Limit of Reporting (detection limit).

**RPD:** Relative Percent Difference.

### Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### Summary of Outliers

#### Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

### ***Outliers : Analysis Holding Time Compliance (Breaches)***

- Analysis Holding Time Outliers exist - please see following pages for full details.

### ***Outliers : Frequency of Quality Control Samples***

- No Quality Control Sample Frequency Outliers occur.





## Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial total (hydrochloric acid) BH7S1	E512	23-Dec-2024	22-Jan-2025	29 days	30 days	✖ EHT	22-Jan-2025	29 days	30 days	✖ EHT
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial total (hydrochloric acid) BH1S1	E512	21-Jan-2025	22-Jan-2025	58 days	30 days	✓	22-Jan-2025	58 days	30 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE total (nitric acid) BH1S1	E444	21-Jan-2025	22-Jan-2025	210 days	30 days	✓	22-Jan-2025	210 days	31 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE total (nitric acid) BH7S1	E444	21-Jan-2025	22-Jan-2025	210 days	30 days	✓	22-Jan-2025	210 days	31 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 180 Day HT (e.g. metals ex. Hg) BH1S1	EPP444	23-Dec-2024	21-Jan-2025	----	----		----	180 days	30 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 180 Day HT (e.g. metals ex. Hg) BH7S1	EPP444	23-Dec-2024	21-Jan-2025	----	----		----	180 days	30 days	✓
TCLP VOCs : VOCs by Headspace GC-MS (TCLP)										
Glass vial (sodium bisulfate) BH1S1	E615B	23-Dec-2024	22-Jan-2025	15 days	31 days	✖ EHT	22-Jan-2025	15 days	31 days	✖ EHT

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 Work Order : WT2500391 Amendment 1  
 Client : CMT Engineering Inc.  
 Project : 24-875 Highpoint Community School, Dundalk, ON



Matrix: **Soil/Solid**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method		Method	Sampling Date	Extraction / Preparation			Analysis				
Container / Client Sample ID(s)				Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
					Rec	Actual			Rec	Actual	
TCLP VOCs : VOCs by Headspace GC-MS (TCLP)											
Glass vial (sodium bisulfate) BH7S1		E615B	21-Jan-2025	22-Jan-2025	44 days	31 days	✔	22-Jan-2025	44 days	31 days	✔

**Legend & Qualifier Definitions**

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).



## Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Soil/Solid**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Mercury by CVAAS (TCLP)	E512	1847521	1	16	6.2	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	1847584	1	16	6.2	5.0	✓
VOCs by Headspace GC-MS (TCLP)	E615B	1847614	1	7	14.2	5.0	✓
Laboratory Control Samples (LCS)							
Mercury by CVAAS (TCLP)	E512	1847521	1	16	6.2	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	1847584	1	16	6.2	5.0	✓
VOCs by Headspace GC-MS (TCLP)	E615B	1847614	1	7	14.2	5.0	✓
Method Blanks (MB)							
Mercury by CVAAS (TCLP)	E512	1847521	1	16	6.2	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	1847584	1	16	6.2	5.0	✓
VOCs by Headspace GC-MS (TCLP)	E615B	1847614	1	7	14.2	5.0	✓
Matrix Spikes (MS)							
Mercury by CVAAS (TCLP)	E512	1847521	1	16	6.2	5.0	✓
Metals by CRC ICPMS (TCLP)	E444	1847584	1	16	6.2	5.0	✓
VOCs by Headspace GC-MS (TCLP)	E615B	1847614	1	7	14.2	5.0	✓



## Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Metals by CRC ICPMS (TCLP)	E444 ALS Environmental - Waterloo	Soil/Solid	EPA 1311/6020B (mod)	An extract produced by the Toxicity Characteristic Leachate Procedure (TCLP) as per EPA 1311 is analyzed by Collision/Reaction Cell ICPMS.
Mercury by CVAAS (TCLP)	E512 ALS Environmental - Waterloo	Soil/Solid	EPA 1311/245.1 (mod)	An extract produced by the Toxicity Characteristic Leachate Procedure (TCLP) as per EPA 1311 is analyzed by CVAAS.
VOCs by Headspace GC-MS (TCLP)	E615B ALS Environmental - Waterloo	Soil/Solid	EPA 1311/8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
VOCs Preparation for Headspace Analysis (TCLP)	EP582 ALS Environmental - Waterloo	Soil/Solid	EPA 5021A (mod)	Liquid obtained after the TCLP process is prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
VOCs Preparation for Headspace Analysis (mSPLP)	EP586 ALS Environmental - Waterloo	Soil/Solid	EPA 5021A (mod)	Liquid obtained after the mSPLP process is prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
mSPLP Leachate Preparation (Metals, Inorganics, and SVOCs)	EPP443 ALS Environmental - Waterloo	Soil/Solid	E9003	Preparation of the modified Synthetic Precipitation Leaching Procedure, ON MECP 2020. A representative subsample of soil excluding stones and passed through a 9.5 mm sieve, (100 grams) is leached (18 ± 2 hours) with 2.0 liters of leaching fluid #2 (pH 5, 60:40 weight mixture of H <sub>2</sub> SO <sub>4</sub> :HNO <sub>3</sub> ). The resulting slurry is filtered through a 0.6 - 0.8 um glass fiber filter for semi-volatile organics and for metals analysis, the leachate is filtered through a 0.45um metal free filter.
TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)	EPP444 ALS Environmental - Waterloo	Soil/Solid	EPA 1311	Preparation of a Toxicity Characteristic Leaching Procedure (TCLP) solid sample involves particle size reduction, homogenization, then determination of appropriate extraction fluid. A measured portion of fresh subsample is placed in an extraction bottle with the appropriate extraction fluid then tumbled in a rotary extractor for 18+/- 2 hours at 23 +/- 2 C. The liquid leachate is filtered to separate from solids then bottled and prepared for analytical tests.
TCLP Leachate Preparation (VOCs)	EPP582 ALS Environmental - Waterloo	Soil/Solid	EPA 1311	An extract produced by the Toxicity Characteristic Leaching Procedure (TCLP) as per EPA 1311.

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Work Order : WT2500391 Amendment 1  
Client : CMT Engineering Inc.  
Project : 24-875 Highpoint Community School, Dundalk, ON



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
mSPLP Leachate Preparation (VOCs and Cyanide)	EPP584  ALS Environmental - Waterloo	Soil/Solid	E9003	The excess soil sample (25 grams) is leached in a Zero Headspace Extractor (ZHE) with 500 mL extraction fluid #3 (reagent water) for 18 ± 2 hours. Collect the filtered extract (0.6 - 0.8 um glass fiber) from the ZHE device. The sample is transferred into PTFE-lined septum-capped glass vials (with no headspace) for analysis of VOCs. A minimum of 50 mL leachate is collected in a glass or plastic container, preserved with sodium hydroxide to a pH >12 at the time of collection and submitted for cyanide analysis.

QUALITY CONTROL REPORT

Work Order	: WT2500391	Page	: 1 of 10
Amendment	: 1		
Client	: CMT Engineering Inc.	Laboratory	: ALS Environmental - Waterloo
Contact	: Jake Feeney	Account Manager	: Mathy Mahadeva
Address	: 1011 Industrial Crescent Unit 1 St. Clements ON Canada N0B 2M0	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 519 699 5775	Telephone	: +1 519 886 6910
Project	: 24-875 Highpoint Community School, Dundalk, ON	Date Samples Received	: 23-Dec-2024 14:45
PO	: ----	Date Analysis Commenced	: 13-Jan-2025
C-O-C number	: ----	Issue Date	: 22-Jan-2025 20:00
Sampler	: Jake Feeney		
Site	: ----		
Quote number	: Standing Offer 2025 Pricing		
No. of samples received	: 2		
No. of samples analysed	: 2		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Nik Perkio	Senior Analyst	Waterloo Metals, Waterloo, Ontario
Sarah Birch	VOC Section Supervisor	Waterloo VOC, Waterloo, Ontario
Tristan Stapells		Waterloo Inorganics, Waterloo, Ontario



## General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

### Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

# = Indicates a QC result that did not meet the ALS DQO.

## Workorder Comments

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Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

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Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Soil/Solid					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
TCLP Metals (QC Lot: 1847521)											
WT2500391-001	BH1S1	Mercury, TCLP	7439-97-6	E512	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 1847584)											
WT2500391-001	BH1S1	Antimony, TCLP	7440-36-0	E444	0.10	mg/L	<0.10	<0.10	0	Diff <2x LOR	----
		Arsenic, TCLP	7440-38-2	E444	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	<2.5	0	Diff <2x LOR	----
		Beryllium, TCLP	7440-41-7	E444	0.025	mg/L	<0.025	<0.025	0	Diff <2x LOR	----
		Boron, TCLP	7440-42-8	E444	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Cadmium, TCLP	7440-43-9	E444	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Calcium, TCLP	7440-70-2	E444	10	mg/L	1440	1440	0.159%	30%	----
		Chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	<0.25	0	Diff <2x LOR	----
		Cobalt, TCLP	7440-48-4	E444	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Copper, TCLP	7440-50-8	E444	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Iron, TCLP	7439-89-6	E444	5.0	mg/L	<5.0	<5.0	0	Diff <2x LOR	----
		Lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	<0.25	0	Diff <2x LOR	----
		Magnesium, TCLP	7439-95-4	E444	2.5	mg/L	157	159	1.17%	30%	----
		Nickel, TCLP	7440-02-0	E444	0.25	mg/L	<0.25	<0.25	0	Diff <2x LOR	----
		Selenium, TCLP	7782-49-2	E444	0.10	mg/L	<0.10	<0.10	0	Diff <2x LOR	----
		Silver, TCLP	7440-22-4	E444	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Thallium, TCLP	7440-28-0	E444	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Uranium, TCLP	7440-61-1	E444	0.20	mg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	<0.15	0	Diff <2x LOR	----
		Zinc, TCLP	7440-66-6	E444	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	<10	0	Diff <2x LOR	----
TCLP VOCs (QC Lot: 1847614)											
WT2500391-001	BH1S1	Benzene, TCLP	71-43-2	E615B	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Carbon tetrachloride, TCLP	56-23-5	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Chlorobenzene, TCLP	108-90-7	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Chloroform, TCLP	67-66-3	E615B	100	µg/L	<0.10 mg/L	<100	0	Diff <2x LOR	----
		Dichlorobenzene, 1,2-, TCLP	95-50-1	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-, TCLP	106-46-7	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----





Sub-Matrix: Soil/Solid					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
TCLP VOCs (QC Lot: 1847614) - continued											
WT2500391-001	BH1S1	Dichloroethane, 1,2-, TCLP	107-06-2	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Dichloroethylene, 1,1-, TCLP	75-35-4	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Dichloromethane, TCLP	75-09-2	E615B	100	µg/L	<0.10 mg/L	<100	0	Diff <2x LOR	----
		Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B	100	µg/L	<0.10 mg/L	<100	0	Diff <2x LOR	----
		Tetrachloroethylene, TCLP	127-18-4	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Trichloroethylene, TCLP	79-01-6	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Vinyl chloride, TCLP	75-01-4	E615B	50	µg/L	<0.050 mg/L	<50	0	Diff <2x LOR	----



## Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

### Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
<b>TCLP Metals (QCLot: 1847521)</b>						
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	<0.0010	----
<b>TCLP Metals (QCLot: 1847584)</b>						
Antimony, TCLP	7440-36-0	E444	0.1	mg/L	<0.10	----
Arsenic, TCLP	7440-38-2	E444	1	mg/L	<1.0	----
Barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	----
Beryllium, TCLP	7440-41-7	E444	0.025	mg/L	<0.025	----
Boron, TCLP	7440-42-8	E444	0.5	mg/L	<0.50	----
Cadmium, TCLP	7440-43-9	E444	0.05	mg/L	<0.050	----
Calcium, TCLP	7440-70-2	E444	10	mg/L	<10	----
Chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	----
Cobalt, TCLP	7440-48-4	E444	0.05	mg/L	<0.050	----
Copper, TCLP	7440-50-8	E444	0.05	mg/L	<0.050	----
Iron, TCLP	7439-89-6	E444	5	mg/L	<5.0	----
Lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	----
Magnesium, TCLP	7439-95-4	E444	2.5	mg/L	<2.5	----
Nickel, TCLP	7440-02-0	E444	0.25	mg/L	<0.25	----
Selenium, TCLP	7782-49-2	E444	0.1	mg/L	<0.10	----
Silver, TCLP	7440-22-4	E444	0.05	mg/L	<0.050	----
Thallium, TCLP	7440-28-0	E444	1	mg/L	<1.0	----
Uranium, TCLP	7440-61-1	E444	0.2	mg/L	<0.20	----
Vanadium, TCLP	7440-62-2	E444	0.15	mg/L	<0.15	----
Zinc, TCLP	7440-66-6	E444	0.5	mg/L	<0.50	----
Zirconium, TCLP	7440-67-7	E444	10	mg/L	<10	----
<b>TCLP VOCs (QCLot: 1847614)</b>						
Benzene, TCLP	71-43-2	E615B	5	µg/L	<5.0	----
Carbon tetrachloride, TCLP	56-23-5	E615B	25	µg/L	<25	----
Chlorobenzene, TCLP	108-90-7	E615B	25	µg/L	<25	----
Chloroform, TCLP	67-66-3	E615B	100	µg/L	<100	----
Dichlorobenzene, 1,2-, TCLP	95-50-1	E615B	25	µg/L	<25	----
Dichlorobenzene, 1,4-, TCLP	106-46-7	E615B	25	µg/L	<25	----
Dichloroethane, 1,2-, TCLP	107-06-2	E615B	25	µg/L	<25	----
Dichloroethylene, 1,1-, TCLP	75-35-4	E615B	25	µg/L	<25	----



Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
TCLP VOCs (QCLot: 1847614) - continued						
Dichloromethane, TCLP	75-09-2	E615B	100	µg/L	<100	----
Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B	100	µg/L	<100	----
Tetrachloroethylene, TCLP	127-18-4	E615B	25	µg/L	<25	----
Trichloroethylene, TCLP	79-01-6	E615B	25	µg/L	<25	----
Vinyl chloride, TCLP	75-01-4	E615B	50	µg/L	<50	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Soil/Solid					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Target Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
TCLP Metals (QCLot: 1847521)									
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	0 mg/L	96.3	70.0	130	----
TCLP Metals (QCLot: 1847584)									
Antimony, TCLP	7440-36-0	E444	0.1	mg/L	0.05 mg/L	104	70.0	130	----
Arsenic, TCLP	7440-38-2	E444	1	mg/L	0.05 mg/L	103	70.0	130	----
Barium, TCLP	7440-39-3	E444	2.5	mg/L	0.012 mg/L	98.7	70.0	130	----
Beryllium, TCLP	7440-41-7	E444	0.025	mg/L	0.005 mg/L	95.0	70.0	130	----
Boron, TCLP	7440-42-8	E444	0.5	mg/L	0.05 mg/L	98.2	70.0	130	----
Cadmium, TCLP	7440-43-9	E444	0.05	mg/L	0.005 mg/L	99.2	70.0	130	----
Calcium, TCLP	7440-70-2	E444	10	mg/L	2.5 mg/L	95.5	70.0	130	----
Chromium, TCLP	7440-47-3	E444	0.25	mg/L	0.012 mg/L	98.2	70.0	130	----
Cobalt, TCLP	7440-48-4	E444	0.05	mg/L	0.012 mg/L	90.1	70.0	130	----
Copper, TCLP	7440-50-8	E444	0.05	mg/L	0.012 mg/L	97.5	70.0	130	----
Iron, TCLP	7439-89-6	E444	5	mg/L	0.05 mg/L	91.6	70.0	130	----
Lead, TCLP	7439-92-1	E444	0.25	mg/L	0.025 mg/L	100	70.0	130	----
Magnesium, TCLP	7439-95-4	E444	2.5	mg/L	2.5 mg/L	106	70.0	130	----
Nickel, TCLP	7440-02-0	E444	0.25	mg/L	0.025 mg/L	96.4	70.0	130	----
Selenium, TCLP	7782-49-2	E444	0.1	mg/L	0.05 mg/L	99.4	70.0	130	----
Silver, TCLP	7440-22-4	E444	0.05	mg/L	0.005 mg/L	93.3	70.0	130	----
Thallium, TCLP	7440-28-0	E444	1	mg/L	0.05 mg/L	98.7	70.0	130	----
Uranium, TCLP	7440-61-1	E444	0.2	mg/L	0 mg/L	101	70.0	130	----
Vanadium, TCLP	7440-62-2	E444	0.15	mg/L	0.025 mg/L	98.8	70.0	130	----
Zinc, TCLP	7440-66-6	E444	0.5	mg/L	0.025 mg/L	101	70.0	130	----
Zirconium, TCLP	7440-67-7	E444	10	mg/L	0.005 mg/L	94.7	70.0	130	----
TCLP VOCs (QCLot: 1847614)									
Benzene, TCLP	71-43-2	E615B	5	µg/L	100 µg/L	109	70.0	130	----
Carbon tetrachloride, TCLP	56-23-5	E615B	25	µg/L	100 µg/L	102	60.0	140	----
Chlorobenzene, TCLP	108-90-7	E615B	25	µg/L	100 µg/L	107	70.0	130	----
Chloroform, TCLP	67-66-3	E615B	100	µg/L	100 µg/L	107	70.0	130	----
Dichlorobenzene, 1,2-, TCLP	95-50-1	E615B	25	µg/L	100 µg/L	106	70.0	130	----
Dichlorobenzene, 1,4-, TCLP	106-46-7	E615B	25	µg/L	100 µg/L	105	70.0	130	----
Dichloroethane, 1,2-, TCLP	107-06-2	E615B	25	µg/L	100 µg/L	103	70.0	130	----
Dichloroethylene, 1,1-, TCLP	75-35-4	E615B	25	µg/L	100 µg/L	106	70.0	130	----



Sub-Matrix: Soil/Solid					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
TCLP VOCs (QCLot: 1847614) - continued									
Dichloromethane, TCLP	75-09-2	E615B	100	µg/L	100 µg/L	102	70.0	130	----
Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B	100	µg/L	100 µg/L	103	50.0	150	----
Tetrachloroethylene, TCLP	127-18-4	E615B	25	µg/L	100 µg/L	103	70.0	130	----
Trichloroethylene, TCLP	79-01-6	E615B	25	µg/L	100 µg/L	104	70.0	130	----
Vinyl chloride, TCLP	75-01-4	E615B	50	µg/L	100 µg/L	109	60.0	130	----



Matrix Spike (MS) Report

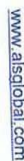
A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Soil/Solid

Sub-Matrix: Soil/Solid					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
TCLP Metals (QCLot: 1847521)										
WT2500391-001	BH1S1	Mercury, TCLP	7439-97-6	E512	0.0031 mg/L	0.003 mg/L	103	50.0	140	----
TCLP Metals (QCLot: 1847584)										
WT2500391-001	BH1S1	Antimony, TCLP	7440-36-0	E444	5.18 mg/L	5 mg/L	104	50.0	140	----
		Arsenic, TCLP	7440-38-2	E444	5.2 mg/L	5 mg/L	105	50.0	140	----
		Barium, TCLP	7440-39-3	E444	13.5 mg/L	12.5 mg/L	108	50.0	140	----
		Beryllium, TCLP	7440-41-7	E444	0.247 mg/L	0.25 mg/L	98.8	50.0	140	----
		Boron, TCLP	7440-42-8	E444	10.6 mg/L	10 mg/L	106	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	0.248 mg/L	0.25 mg/L	99.1	50.0	140	----
		Calcium, TCLP	7440-70-2	E444	ND mg/L	----	ND	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	1.29 mg/L	1.25 mg/L	104	50.0	140	----
		Cobalt, TCLP	7440-48-4	E444	0.236 mg/L	0.25 mg/L	94.5	50.0	140	----
		Copper, TCLP	7440-50-8	E444	2.46 mg/L	2.5 mg/L	98.6	50.0	140	----
		Iron, TCLP	7439-89-6	E444	252 mg/L	250 mg/L	101	50.0	140	----
		Lead, TCLP	7439-92-1	E444	9.74 mg/L	10 mg/L	97.4	50.0	140	----
		Magnesium, TCLP	7439-95-4	E444	272 mg/L	250 mg/L	109	50.0	140	----
		Nickel, TCLP	7440-02-0	E444	2.52 mg/L	2.5 mg/L	101	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	5.00 mg/L	5 mg/L	100	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.100 mg/L	0.1 mg/L	100	50.0	140	----
		Thallium, TCLP	7440-28-0	E444	5.0 mg/L	5 mg/L	99.0	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	5.09 mg/L	5 mg/L	102	50.0	140	----
		Vanadium, TCLP	7440-62-2	E444	0.78 mg/L	0.75 mg/L	104	50.0	140	----
		Zinc, TCLP	7440-66-6	E444	9.76 mg/L	10 mg/L	97.6	50.0	140	----
		Zirconium, TCLP	7440-67-7	E444	1 mg/L	1 mg/L	101	50.0	140	----
TCLP VOCs (QCLot: 1847614)										
WT2500391-001	BH1S1	Benzene, TCLP	71-43-2	E615B	219 µg/L	250 µg/L	87.6	50.0	140	----
		Carbon tetrachloride, TCLP	56-23-5	E615B	200 µg/L	250 µg/L	80.0	50.0	140	----
		Chlorobenzene, TCLP	108-90-7	E615B	230 µg/L	250 µg/L	91.9	50.0	140	----
		Chloroform, TCLP	67-66-3	E615B	220 µg/L	250 µg/L	86.9	50.0	140	----
		Dichlorobenzene, 1,2-, TCLP	95-50-1	E615B	239 µg/L	250 µg/L	95.5	50.0	140	----
		Dichlorobenzene, 1,4-, TCLP	106-46-7	E615B	238 µg/L	250 µg/L	95.4	50.0	140	----
		Dichloroethane, 1,2-, TCLP	107-06-2	E615B	227 µg/L	250 µg/L	90.9	50.0	140	----
		Dichloroethylene, 1,1-, TCLP	75-35-4	E615B	210 µg/L	250 µg/L	83.9	50.0	140	----
		Dichloromethane, TCLP	75-09-2	E615B	220 µg/L	250 µg/L	86.3	50.0	140	----
		Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B	240 µg/L	250 µg/L	94.1	50.0	140	----
		Tetrachloroethylene, TCLP	127-18-4	E615B	208 µg/L	250 µg/L	83.4	50.0	140	----
		Trichloroethylene, TCLP	79-01-6	E615B	209 µg/L	250 µg/L	83.7	50.0	140	----
		Vinyl chloride, TCLP	75-01-4	E615B	213 µg/L	250 µg/L	85.1	50.0	140	----







726-  
VF-

## Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 -

Pana

**Environmental Division**  
**Waterloo**

Work Order Reference  
WT2437976

Telephone : +1 519 886 6910

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW VOC form**.

WHITE - LABORATORY COPY      YELLOW - CLIENT COPY

AUG 2020 FROM